



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

RBE105-31702W19-1

Job Sheet 198227



Part No: RBE105-31702W19-1

Job Qty: 1 pcs

Part Name: Internal Gear



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 7/24/19

Job Tracking No:

Due Date: 8/30/19

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG RBE105-31702W19 Rev 2 IPP Rev. A 19.07.22 New issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing	1 pcs	8/30/19		0.00	0.00	Purchasing - 1		
							Purchasing - 2		
							Purchasing - 3		
110	Packaging 2-1 - Receive - B4B	1 pcs	8/30/19		0.00	0.00	Packaging 2 - 1 - B4B		
							Packaging 2 - 2 - B4B		
							Packaging 2 - 3 - B4B		
120	QC 6	1 pcs	8/30/19		0.00	0.00	QC 6 - 9		
							QC 6 - 68		
							QC 6 - 61		
							QC 6 - 40		
							QC 6 - 81		
130	Packaging 3-1 - Stock - B4B	1 pcs	8/30/19		0.00	0.00	Packaging 3 - 1 - B4B		
							Packaging 3 - 2 - B4B		
							Packaging 3 - 3 - B4B		
							Packaging 3 - 4 - B4B		
							Packaging 3 - 5 - B4B		
140	QC 21 - SA	1 pcs	8/30/19		0.00	0.00	QC 21 - SA - 21		
							QC 21 - SA - 70		
							QC 21 - SA - 53		

Part Op 100 - -Issue P/O to PJ MACHINAGE; P/O HBC042314 -Manufacture RBE105-31702W19-1 as per DWG. -Certificate Descriptions: of Conformity is required

110 - Certificate of Conformity is required

120 - QC6- All purchased or subcontracted products

130 - Identify as per dwg & Stock Location: _____

140 - QC21- Final Inspection - Work Order Release

x 1 plus aug 09 2019

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
RBE105-31702W19-1P	Internal Gear	1 (1 ea)	100-Purchasing	5226807

Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	RBE105-31702W19-1P	1	0	0
Part Specifications				
Specifications could not be found.				

Plex 7/24/19 8:08 AM Dart.lajeunesse.marie



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 813 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S226809



Part: RBE105-31702W19-1

Job No: 198227

Serial No/Batch: S226809

Revision: 2

Inspector:

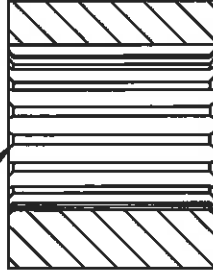
Exp Date:

Instructions:

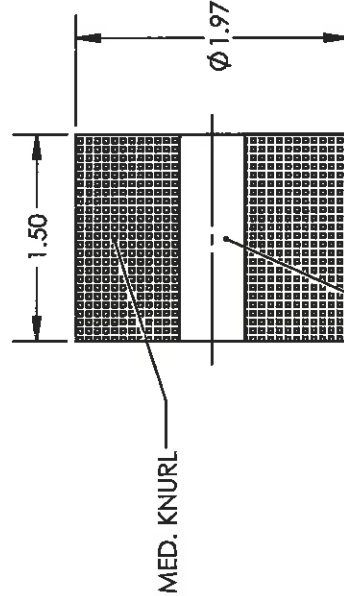
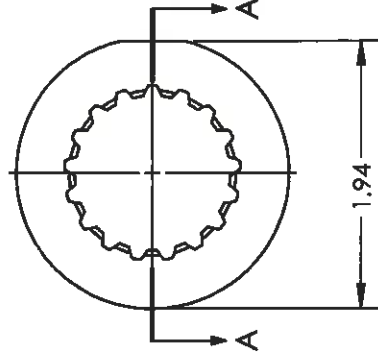
Date: 10/28/19

This drawing, specifications, and concepts contained herein are the sole property of DART Aerospace and may not be reproduced or used in any fashion without the prior written permission of DART Aerospace Eugene, OR.

2X .03 X 45°

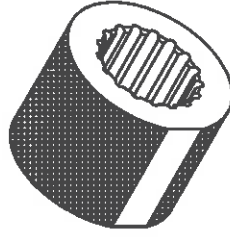


SECTION A-A



MED. KNURL

ENGRAVE P/N



SHOP COPY
RETURN TO
ENGINEER
UNCONTROLLED
SUBJECT TO AM
WITHOUT N
WORK O

0.198227MUS

19-07-24

NOTE:

1. MOLD WAS SENT TO AMERICAN GEAR TO GIVE US GEAR INFORMATION TO MANUFACTURE.
2. HIDDEN LINES REMOVED FOR CLARITY.



TITLE MOUNTING TOOL

DWG NO.	RBE105-31702W19-1	REV	2
MATL	4140/4142 Q & T	UNLESS OTHERWISE SPECIFIED	
FINISH	ZINC PLATE	DIMENSIONS IN INCHES	
SPEC	ASTM B633 TYPE I SC 2	XXX ± .005 FRACTIONS 1/16	
DRAWN BY:	CLOUGH	XX ± .01 ANGLES ± 5°	
CHECKED:	CLOUGH	X ± .1 SURFACES ± 125	
OPPS APPR:	ANDERSON	1. BREAK ALL SHARP EDGES	
QA APPR:	LINDSAY	2. DIMENSIONAL LIMITS APPLY	
APPROVED:	MACKOVJAK	3. INTERPRET DIM AND TOL PER	
SCALE	3:4	ASME Y14.5M-2009	
DATE	11/22/2013	USED ON MODEL	
		EC145	
		SHEET 2 OF 11	

(-1)

INTERNAL GEAR

INTERNAL SPLINE DIN 5480	
NUMBER OF TEETH	17
MODULE	1.75
PRESSURE ANGLE	30°
BASE DIA.	25.764mm
PITCH DIA.	29.750mm
MAJOR DIA.	(Ø32.35mm - 32.82mm)
MINOR DIA.	Ø28.50mm - 28.63mm
DIA. OVER 3 PINS	24.282mm
PIN DIA.	3.5mm
REF. DIA.	(Ø 32mm)



Entered: _____ Date: _____

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____		DISPOSITION			DEPARTMENT/PROCESS								
		Rework ☐ Scrap ☐ Use-as-is ☐			Skid-tube ☐ Machining ☐ Large Fab ☐		Cross tube ☐ Small Fab ☐ Finishing ☐		Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐		Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐		
Date :	Sequence #:	QTY Affected :		MRB (QSI042)									
Description Work Order Deviation				Disposition									
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐				FAULT CATEGORY									
				Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐		Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐		Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread ☐			
				Other/Details:									
Completed By				Lead hand / Supervisor									
QC / QA Coordinator													



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **POHB044234**



Supplier: PJM001-VC
P.J. Machinage
1381 Rte Cite-Des-Jeunes
St-Lazare
QC
J7T 2B8
Phone: 450-455-0705

PO No: POHB044234
PO Date: 8/9/19
Due Date: 10/18/19
Purchase Order Revision:
Revision Date:
Ship-To Contact: Phone:

Revision

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pynt Terms: Net 30
Freight Terms:
Special Comments:

Items													
Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	198238	RBE105-31702W19-7P			External Gear REV 2	Firmed X2	-	10/18/19	2 Ea	0 Ea	OCT 2 5 2019	\$282.00/Ea	\$564.00
2	198227	RBE105-31702W19-1P			Internal Gear REV 2	Firmed X1	-	10/18/19	1 Ea	0 Ea	1 Ea	\$485.00/Ea	\$485.00
Line Item Note: PRICE TO BE CONFIRM													
												Grand Total:	\$1,049.00

Order Notes

Procurement Quality Clauses
A005 RIGHT OF ENTRY
A008 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION SENT TO DART AEROSPACE)
A012 CHEMICAL AND PHYSICAL TEST REPORTS
A016 PERSONNEL QUALIFICATION
A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)
A026 CERTIFICATION OF MATERIAL CONFORMANCE
A041 QUALITY MANAGEMENT SYSTEM
A042 DART NOTIFICATION BY SUPPLIER
A043 RETENTION OF QUALITY DOCUMENT

A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM

A049 SUPPLIER AWARENESS

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 8/13/19 10:24 AM dart.lussier.patrick

Shipping Order

24/10/2019

P.J. Machinage (9052 9470 Qc.Inc).
1381, Rte Cité-Des-Jeunes,
St-Lazare, Qc
J7T 2B8

Tel : 450 455-0705

Order
Reference
Bid

: 8235
: POHB044234-S/O:8235
: 16476

Customer : 628

Ship To

Dart Aerospace Ltd.
Patrick Lussier
1270 Aberdeen St
Hawkesbury , Ontario
K6A 1K7

Same

Item No.	Description	Qty	Qty. Delivered	B/O Qty
001	RBE105-31702W19-7P Rev. 2 External Gear (Mounting Tool) (J8235-A)	2	2	Ø
002	RBE105-31702W19-1P Rev. 2 Internal Gear (Mounting Tool) (J8235-B)	1	1	Ø

RECEIVED

OCT 25 2019

DART AEROSPACE LTD.

P.J. Machinage retains ownership of all goods sold and other work-product delivered to or performed for its customer until full and complete payment of the underlying invoice, even in circumstances where the part to be machined or materials were provided by the customer. In cases where the part of materials belonged to the customer before it is remitted to P.J. Machinage for the purpose of performing work thereon, its delivery to P.J. Machinage shall entail a transfer of the underlying rights of ownership of the customer over said part or materials.

Shipping : Vote Common
Package No : _____
Merchandise Received : 25/10/2019

Ref. : _____

PJ Machinage**Certificate of conformance****Sold to:**

Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON, K6A 1K7

Supplier address:

PJ Machinage
1381 Route Cité-Des-Jeunes
St-Lazare, Qc, J7T 2B8

Purchase Order: POHB044234

This is to certify that the below names items were inspected and/or tested to your drawings, specifications and purchase order. Objective evidence are shipped with the products and are on file to support the verifications and/or tests and can be made available on request, unless otherwise noted.

<u>Part Number</u>	<u>Quantity</u>	<u>Description</u>
RBE105-31702W19-7P Rev. 2	2	External Gear
RBE105-31702W19-1P Rev. 2	1	Internal Gear



, October 24, 2019

五

8275-1

REF ID: A6105-31702 W19-7P Rev. 0

POH 130 44 2321

2

NOM DE LA PIÈCE:

CONTRÔLE DE QUALITÉ
External Gear

MATÉRIEL:

1150

001

1



CONTRÔLE DE QUALITÉ

MATÉRIEL: 4140 HT

DIMENSIONS DE DESSIN ET TOLERANCE

[illegible]

OBSERVATION:

SIGNATURE RESPONSABLE:

2

J-8235-A



ACIER VANGUARD LTÉE

2205 de l'Aviation, DORVAL, QUÉBEC, Canada, H9P 2X6.

Tel: (514) 685-1515 fax: (514) 685-1516

CERTIFICATE OF COMPLIANCE / CERTIFICAT DE CONFORMITÉ

Order No. / No. Commande	CUSTOMER / CLIENT	Packing slip / No. d'expédition	DATE
Order No. / No. Commande 136822	CUSTOMER / CLIENT P. J. MACHINING	Packing slip / No. d'expédition L75666-01	DATE 14-08-19
MATERIAL ID# / No. MATÉRIEL 2018-2242	GRADE / NUANCE AISI 4140	HEAT TREATMENT / TRAITEMENT THERMIQUE Q.T.S.R / TREMPÉ REVENU - RECUIT DE DÉTENTE (RONDS)	HEAT / COULÉE 20590418
SHAPE / FORME Round / Rond	SIZE / DIMENSION 1.500" in.	SPECIFICATIONS ASTM A751-11, A193-10, A434-06 Class BC, A388-11	

PAYS D'ORIGINE: MEXICO

CHEMICAL COMPOSITION / ANALYSE CHIMIQUE

	Carbon (C)		Silicon (Si)		Manganese (Mn)		Phosphorus (P)	
mini/maxi	0.380	0.430	0.150	0.350	0.750	1.000		0.035
actuel (%):	0.410		0.230		0.930		0.009	
	Sulfur (S)		Chromium (Cr)		Nickel (Ni)		Molybdenum (Mo)	
mini/maxi		0.040	0.800	1.100	0.000	0.250	0.150	0.250
actuel (%):	0.018		0.940		0.070		0.200	
	Copper (Cu)		Vanadium (V)		Aluminium (Al)		Tungsten (T)	
mini/maxi		0.350	—	—	—	—	—	—
actuel (%):	0.170		0.003		0.024		0.000	

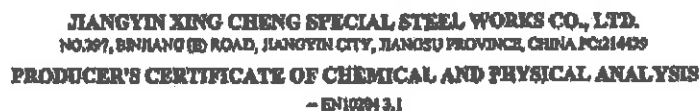
MECHANICAL PROPERTIES / PROPRIÉTÉS MÉCANIQUES

Yield strength / Élasticité	Tensile / résistance à la traction	Elongation / allongement (%)	Reduction of area / surface (%)	Hd/dure surface
124 KSI	139 KSI	19.4%	56.6%	312 BHN

No weld repairs performed during the manufacturing of this product. We hereby certify that the above results have been verified and conform to the above mentioned specifications. Material is Mercury free, without radioactivity.

Aucune réparation exécutée par soudure durant la fabrication de ce produit. Par la présente nous attestons que les résultats ci-haut mentionnés ont été vérifiés et sont conformes aux spécifications. Pas de contact au Mercure, sans radioactivité.

Keith BALL - Branch Manager



TO: MARYLAND CORPORATION 366 LAKE COOK ROAD SUITE 300A DEERFIELD, IL 60015
DESCRIPTION OF GOODS: COILS ROLLED AND FORMED ROUND STEEL, 36 IN O
CONTRACT NO. 0306A00200L. SUPPLEMENTAL INVOICE NO. 0306A00200L
STEEL, IN PILES FROM INVENTORY, NO HEAVY WELDING STEEL, IN PILES FROM ANY HARMFUL RADIOACTIVE CONTAMINATION 366 DEERFIELD, ILL. 60015

J. 8235-B

2/2

[illegible]

QUALITY MANAGED™

162